

## **REMARKS**

### **Status of the claims**

Claims 1-4 are pending in the application, with claims 1-3 being amended herein and claim 4 being withdraw.

### **Restriction of the claims**

Applicants acknowledge the maintenance of the restriction of the claims and that claim 4 remains withdrawn, with claims 1-3 being elected.

### **Objections to the claims**

Claims 2 and 3 are objected to with the indication that the genus/species names should be italicized or underlined. The claims have been amended, as indicated above, to italicize the genus and species names.

### **Rejections under 35 U.S.C.§101**

Claims 1-3 have been rejected under 35 U.S.C.§101 as being directed to non-statutory subject matter. Claims 1-3 have been amended to be directed to an “isolated” DNA. As such, withdrawal of the rejection is respectfully requested.

### **Rejections under 35 U.S.C.§112, 2<sup>nd</sup> paragraph**

Claim 1 has been rejected under 35 U.S.C.§112, 2<sup>nd</sup> paragraph with the assertion that “variant of the protein of SEQ ID NO:4” is indefinite as to the scope of the term “variant”. Claim 1 has been amended to insert specific hybridization parameters. As such, the “variant” has been fully defined in the context of the hybridization conditions used. Withdrawal of the rejection is therefore respectfully requested.

### **Rejections under 35 U.S.C.§112, 1<sup>st</sup> paragraph**

Claims 1-3 have been rejected under 35 U.S.C.§112, 1<sup>st</sup> paragraph for lack of written description. The Examiner asserts that the specification does not adequately describe the genus

of nucleic acids encoding a polypeptide having insecticidal activity and comprising nucleotides 198-1561 of SEQ ID NO:2 and or nucleotides 1-1145 of SEQ ID NO:3. Applicants traverse this rejection and withdrawal thereof is respectfully requested. Claim 1 is directed to an isolated DNA encoding a variant of the protein of SEQ ID NO:4, having substantially the same insecticidal activity as the protein of SEQ ID NO:4 or an insecticidally-effective fragment thereof, wherein said DNA

hybridizes under stringent hybridization conditions to the DNA of SEQ ID NO:4 from nucleotide position 797 to nucleotide position 2641 and wherein said stringent hybridization conditions are established as follows using the following consecutive steps:

- h. immobilizing DNA fragments on a filter;
- i. prehybridizing said filter for 1 to 2 hours at 42°C in 50% formamide, 5 X SSPE, 2 X Denhardt's reagent and 0.1% SDS, or for 1 to 2 hours at 68°C in 6 X SSC, 2 X Denhardt's reagent and 0.1 % SDS;
- j. adding a hybridization probe, which has been radiolabeled;
- k. incubating for 16 to 24 hours;
- l. washing said filter for 20 minutes at room temperature in 1 X SSC, 0.1% SDS;
- m. washing said filter three times for 20 minutes each at 68°C in 0.2 X SSC, 0.1 % SDS; and
- n. autoradiographing said filter by exposing said filter for 24 to 48 hours to X-ray film at -70°C with an intensifying screen; and

wherein said DNA comprises the nucleotide sequence of SEQ ID NO:2 from nucleotide position 198 to nucleotide position 1561, and the nucleotide sequence of SEQ ID NO:3 from nucleotide position 1 to nucleotide position 1145, or a degenerate DNA sequence thereof, wherein one or more amino acid codons have been replaced with others without changing the amino acid sequence of the protein.

Thus, the instant claims have been limited to DNA sequences which hybridize to SEQ ID NO:4 under very specific conditions and which contain a specific portion of SEQ ID NOS: 2 and 3 (i.e. position 198 to nucleotide position 1561 of SEQ ID NO:2 and position 1 to nucleotide position 1145 of SEQ ID NO:3). The genus encompassed by the claims is therefore not as large

in scope as originally presented or as interpreted by the Examiner. SEQ ID NOS:2 and 3 are the 5' and 3' ends of the gene and are shown in the specification to be able to identify active *bTS02618A* gene and variants thereof. As demonstrated in Example 3, SEQ ID NOS: 2 and 3 of the gene allowed identification of the *bTS02618A* gene in BTS02617A, BTS02654B and BTS02652E. The inventors have fully described the scope of the claims in the specification, particularly through the examples, such that ones skilled in the art would readily recognize that the invention as currently claimed was in possession of the inventors at the time the invention was made. Withdrawal of the rejection is therefore respectfully requested.

Claims 1-3 have been further rejected under 35 U.S.C. §112, 1<sup>st</sup> paragraph for lack of enablement, with the assertion that the specification is only enabled for a polynucleotide encoding amino acids 44-658 of SEQ ID NO:5. Applicants traverse this rejection and withdrawal thereof is respectfully requested. As noted above, the inventors have not only isolated the *bTS02618A* gene, they have further demonstrated that with SEQ ID NOS: 2 and 3, i.e. the 5' and 3' ends of the *bTS02618A* gene, *bTS02618A* genes from other species can be readily identified. The specification further details how to isolate such genes and to then test the encoded proteins for the insecticidal activity. As such, the invention as claimed is fully enabled and withdrawal of the rejection is respectfully requested.

**Non-statutory Obviousness type double patenting rejection**

Claims 1-3 have been rejected for non-statutory obviousness type double patenting over claims 6 and 10 of USP 6,727,409 and claims 1-2 of USP 6,028,246. Applicants respectfully request that this issue be held in abeyance until such time that the claims are otherwise in condition for allowance, at which time a terminal disclaimer will be filed if it is still deemed necessary.


In view of the above amendment, applicant believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact MaryAnne Armstrong, Ph.D., Reg. No. 40,069 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

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Respectfully submitted,

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